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ABSTRACT

College attendance patterns, areas of study, and abilities of Asian Americans are considered. Asian Americans pursue higher education at somewhat higher rates than average, and the rate is increasing. They concentrate in business, the physical sciences, and engineering in greater than expected numbers in comparison with the general student population. Asian Americans are present in larger than expected numbers in selective institutions such as Harvard, Johns Hopkins, and the University of California, Berkeley, but also concentrate in large numbers in urban community colleges. Abilities important to success in college, primarily verbal and mathematical reasoning abilities, have consistently been shown to be distinctive in patterns among Asian Americans at virtually every level of education; while Asian Americans' average quantitative scores are higher than those of whites, their verbal abilities are much lower than whites. The problem of relatively low verbal abilities have been particularly marked among economically disadvantaged Asian Americans. Also considered are factors that influence medical and law school admissions decisions for this population, and length of U.S. residence and science career plans among college-bound Asian Americans. (SW)

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# Fine Tuning the Future Agenda for Equity Research in Higher Education: Asian Americans and Cross-cultural Perspectives

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Fine Tuning the Future Agenda for

Equity Research in Higher Education:

Asian Americans and Cross-cultural Perspectives

The name Asian American came into use increasingly during the late 1960s and 1970s. It was a convenient umbrella term for a growing, rapidly changing and heterogeneous mix of people who include alphabetically, Asian Indian to Vietnamese, who represent an enormous range of cultures from preliterate societies to ancient, highly developed civilizations. More than half of the three and one half million plus Asian Americans have arrived in the U. S. only since the passage of the Immigration Act of 1965, which eliminated severely restrictive Asian quotas. Increasingly, higher education institutions are dealing with Asian Americans who are not fourth generation Americans, but new arrivals whose mother tongues are something other than English, and who may have had a portion of their precollege education abroad.

The Immigration Act has reshaped the demographic composition of Asian Americans dramatically. During the same period, the Civil Rights Act of 1964 has been an equally influential force on their education. The law helped accelerate the pace of Asian American pursuit of high education, that began during the second world war and expanded for many veterans with the help of the GI Bill of Rights. Since then, Asian Americans have effectively used higher education as their ticket out of the Chinatowns, Little Tokyos and other more recent immigrant ghettos, into affordable suburban housing, where their children can benefit from quality public education.

In 1980, Asian Americans were about 1.5 percent of the U. S. population. Their age distributions differed by ethnic groups, with the youngest being the most recent waves of immigrants from Southeast Asia (Figure 1). In 1980, Asian Americans made up about about 2.4 percent of higher education enrollment. During 1980-81, Asian Americans were recipients of 2 percent of the bachelor's degrees, 2.5 percent of master's degrees, 2.7 percent of doctorates and 2 percent of all first professional degrees conferred. These numbers make it clear that neither access to, nor persistence in higher education have been considered significant current problems for Asian Americans as a group. However, these statistics, albeit above the general U. S. population's, could hardly be considered the overwhelming onslaught on U. S. campuses that we often read about in the popular press. Nor, on the other hand, do these numbers suggest that the topics of Asian American access or persistence in higher education would be fruitful areas for future research, except among specific subgroups with little past experience in higher education.

One possible explanation for the discrepancy between the popular perception of enormous Asian American success in higher education, and the actual modest, steady increase in numbers of Asians with college degrees as a result of national policy changes in education and immigration, might lie in the inability on the part of the general public as well as educators and policymakers, to distinguish between Asian Americans, permanent residents and nonresident aliens. These two latter groups together received about 6 percent of the doctorates conferred in 1980-81, more than double the doctorates earned by Asian Americans. Permanent residents may, in time, become naturalized

citizens. Their offspring might then become sons and daughters of the Asian "brian drain," who will likely become future consumers of U. S. higher education. Latter day Asian immigrants are, in general, well educated.

The perception of hordes of Asian Americans on every U. S. campus might also be due to uneven distribution of Asian Americans, and Asians, across regions, institutions and by major fields of study. Perhaps the observable symptoms of the "yellow peril" on some campuses and in certain faculties have been, in reality, spotty outbreaks, and not pandemic to American higher education. Labor market trends, institutional admission's policies, available student guidance, institutional information and financial aid, interacting with processes of self-selection based on achievement and test scores work together to influence the distribution of Asian American students. Asian Americans do concentrate in business, the physical sciences and engineering, in greater than expected numbers in comparison with the general student population. They are present in larger than expected numbers in selective institutions such as Harvard, U. C. Berkeley, and Johns Hopkins, but also concentrate in large numbers in urban community colleges. There is evidence to support the uneven distribution hypothesis in the literature. Examination of available data about the abilities, motives, values, and educational experiences of Asian Americans do converge to explain, at least in part, their concentration in quantitative fields: business, economics, mathematics, physical sciences, computer science and engineering, other quantitative social sciences, and the health professions with relatively fewer Asian American students majoring in the humanities, religion or the law.

Abilities important to success in higher education, primarily verbal and mathematical reasoning abilities, have consistently been shown to be distinctive in patterns among Asian Americans at virtually every level of education (Figure 2). The pattern and levels of GRE, V, Q, and A scores of Asian Americans in comparison with Whites' by major fields is typical. There are peaks in average quantitative scores in virtually all fields, with the Asian American means higher than White means. Verbal abilities, on the other hand, are in valleys much lower than Whites', while analytical abilities are lower than Whites' and about the same as the mean for all GRE candidates. Construct validity studies have verified these patterns across a variety of instruments. There is also evidence that the mathematical cognitive structures of Asian Americans who received earlier schooling in Asia appeared to be different from those of American educated students.

The ATP and GRE scores of Asian Americans predict first year college and graduate school grades about as well as for White students, using classical as well as Baysian methods. General systems tend to slightly underpredict first year grade point averages of Asian American students. This consistent underprediction, which is one definition of bias, might be better understood if future research views test bias in a broader perspective than limited to the predictive validity model. Scheuneman (1984) has proposed that test bias be viewed as a multifaceted aspect of tests and test takers. Better understanding of the relationship between test scores and actual performance could result. For example, the scores of Asian Americans on Test of Standard Written English (TSWE), unlike SATs or GREs and GPAs, overpredicted the ratings of test takers' written essays. These observations of over- and

underprediction could be due to the different nature of criteria used in the two types of situations. Instructors assign college and graduate school grades, based on many and different student and performance factors, while essay readers base their ratings upon one work sample.

The qualities of oral and written expression are areas in which many Asian American college students express concern. They report interest in obtaining special assistance for reading skill and writing skills in college, and rated themselves relatively poorly for spoken expression. Research on the impact of inadequate verbal expression in higher education by fields and subgroups may lead to policy decisions that will ameloriate Asian American verbal performance in the long run, and be important to other LEP students in higher education as well.

The problem of relatively low verbal abilities has been particularly marked among economically disadvantaged Asian Americans. Among ATP test takers who reported family income to be under $6,000 a year, the gap between SAT-V and SAT-Q was about 200 score points (Figure 3). The available data do not tell us to what extent low income and limited English proficiency are confounded in causing low verbal performance. These same low income Asian Americans, however, averaged SAT-M scores at about the national mean, which suggested their prior mathematics education, however and wherever obtained, was considerably more effective than their English language training. Among the 1984 SAT test takers, more than 28 percent did not consider English to be their best language, comared with 9.8 percent and 8 percent for Puerto Rican and Mexican American SAT candidates respectively. Yet, Asian American test takers of limited English proficiency attained mean SAT-M scores higher than

their Asian American classmates for whom English was the best language, who probably had most of their prior schooling in the U. S. Both groups' SAT-M scores were higher than the mean for all test takers as well as Whites'.

New immigrant families are most likely to have problems with the English language and also be at the lower end of the economic scale. The 1980 census reported that more than 26 percent of Asian and Pacific Americans five years old or over had been living abroad in 1975. Taking into account the fact that immigrants were younger than the average U. S. population, a remarkable 28 percent of all 1984 college bound Asian American seniors, who did not consider English to be their best language, failed to be deterred from college applications by their self acknowledged limitations in the English language; nor were the more than 22 percent of SAT test takers in the lowest family income groups. Desire for higher education among Asian Americans, without regard to language or economic status, must be a powerful motivating and energizing force.

It is understandable, however, that such students in higher education would be more likely to choose major fields that do not require high verbal reasoning activities, but would provide marketable skills. Bagasao found that years of U. S. residence was associated with math-science majors (Table 1). Berryman has noted that Asian Americans behave differently from Whites and other minorities. They chose quantitative majors at twice the White rates, and their choices appeared to be "insensitive" to variations in parental education. Research into the decision in higher education and career for paths of Asian Americans, particularly among low income, limited English students, could provide insights for improving the recruitment and retention

of underrepresented groups in quantitative fields. Within the Asian American population, choice of fields and institutions differentiate by ethnicity and generation, but there were no systematically collected data bases to permit detailed analyses by Asian American subgroups. The availability of such data could greatly improve our understanding of the interactions among subgroup membership, time in the U. S. educational system, and choice and motivation for higher education. Such data are being collected for Hispanic Americans.

The flocking of Asian Americans into quantitative fields can be understood as bound rational behavior, in that individuals make higher education decisions based on maximizing their strengths (M) with a view towards entering the labor market. But the aggregated decisions of the majority of Asian Americans, compounded by similar behavior on the part of Asian residents and nonresidents, have resulted in them being very visible minorities, concentrated in a few pockets in higher education. Institutional decisions about admissions, placement and job or aid awards, on the other hand, particularly among highly selective situations, could be influenced by the uneven distribution of Asian Americans. The economic aspects of higher education decision making, institutional and individual, are not well understood, and could be topics for a research agenda.

For example, medicine is a favorite field for professional specialization among Asian Americans. In the past few years, up to 7 percent of MCAT candidates have identified themselves as Asian Americans. Their achievement test scores, particularly in the physical sciences, have been generally higher than Whites, and their verbal analytical skills scores lower. Even in the late 1970s, when the proportion of Asian American applicants were somewhat

lower, the average MCAT scores and undergraduate GPAs of accepted Asian Americans was higher than other groups, except for Cuban Americans (Table 2). These data suggest that for fields with concentrations of able applicants from any ethnic group, the competition ends up being mostly among themselves, rather than between groups.

The pattern has been the opposite for law school admissions policies with regard to Asian Americans. Success in law schools and at the Bar require fluent English and strong verbal reasoning abilities. These have not been areas of strength for most Asian Americans. Nor until recently, was there a notable demand for the services of Asian American lawyers. As late as 1972, there were fewer than 500 Asian American law students enrolled in J.D. programs in all ABA approved schools. Asian American applicants to law schools typically had lower LSAT scores than Whites. The acceptance rate of Asian Americans in comparison to White students was in the opposite direction from medical schools (Table 3). By 1983-84, there were about 2,000 Asian Americans students in approved law schools. Asian American enrollment now appears to have plateaued at about 1.5 percent of ABA law students, very close to population proportions. Higher education institutions, and individual students, make rational decisions based on the information available to them but these decisions are not always complementary, and the results seem to operate as markets, subject to the laws of supply and demand within groups. Research by major fields and longitudinal data on ethnic subgroup by field would illuminate our understanding of the aggregated affects of individual, subgroup and institutional decisions. Distribution, and not access seems potentially rewarding in higher education research, as we need to learn more about the system to optimize our decisions.

We have seen that Asian Americans pursue higher education at somewhat higher rates than average. That rate is increasing. In 1982-83, 4 percent of ATP registrants, and 1.3% of ACT assessment candidates were Asian Americans. Even with duplications, these percentages are harbingers of greater Asian American enrollment. Higher proportions of Asian Americans are also enrolling in community colleges. The distribution problem will continue unless Asian American precollege students and their families, and we as researchers, understand better the costs of suboptimal human resource distribution relative to the cost of amelioerating underdeveloped verbal reasoning abilities. While Asian Americans took more academic courses than average in high school, they reported more courses in mathematics and science, and fewer credit hours in English and social studies. These choices may have resulted in their slightly higher than average HSGPAs and ranks in class. However, could these also have limit their choices in major fields, and later careers? Asian Americans claimed they needed more help in reading, speaking and writing, but took fewer courses in these areas. Is this a risk averse, and short ranged view of higher education? A future research agenda could include decision oriented questions directed to smaller groups rather than gross summary statistics across large demographic groupings. Similar research across all the groups for whom English is not the best lanaguage may be able to provide insight into the type of preparation, before and during college years, that would improve verbal reasoning and expression. Fine tuning, not a new leaf seems a promising approach to higher education research for Asian Americans.

Because Asian and Pacific Americans are such a heterogeneous population, research on the cognitive performance, values, interests and motivation

relative to higher education by subgroups, and in comparison with other ethnic groups that may have some common educational experiences or historic characteristics, such as Pacific Americans and Native Americans, Filipino Americans and Spanish Americans, may be able to better integrate our currently fragmented thinking about American minorities. As every young students of classical chinese had to learn in their first reader:

In the beginning,
Man was good
Nature is same
But customs differ

It is time we look to the common human aspects of American ethnic groups in higher education.

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Table 1

Length of U. S. Residence and Science Career Plans
Among 204 HS&B College Bound Asian American Grade 12 Students

| | Science N = 102 | Nonscience N = 102 |
|---|---|---|
| Length of Residence | | |
| U. S. Born and Raised | 40% | 60% |
| Foreign Born - U. S. Raised | 51% | 49% |
| Recent Asian Immigrants | 67% | 33% |
| White Comparison Sample (N = 384) | 41% | 59% |

Source: Bagasao, 1983

Table 2

Average Medical College Admission Test Assessment Area Scores of Asian/Pacific Americans, White and Total Test Takers 1981

| | | Asian/Pacific Americans | White | Total |
|---|---|---|---|---|
| N | | 2,254 | 38,018 | 48,203 |
| Area Scores: | | | | |
| Biology | Mean | 8.22 | 8.52 | 8.13 |
| | S.D. | 2.56 | 2.31 | 2.51 |
| Chemistry | Mean | 8.66 | 8.23 | 7.94 |
| | S.D. | 2.58 | 2.42 | 2.52 |
| Physics | Mean | 8.81 | 8.38 | 8.07 |
| | S.D. | 2.68 | 2.47 | 2.60 |
| Science Problems | Mean | 8.37 | 8.17 | 7.83 |
| | S.D. | 2.58 | 2.39 | 2.52 |
| Skills Analysis: Reading | Mean | 6.68 | 8.04 | 7.50 |
| | S.D. | 2.72 | 2.12 | 2.52 |
| Skills Analysis: Quantitative | Mean | 7.35 | 7.90 | 7.45 |
| | S.D. | 2.42 | 2.24 | 2.46 |

Source: AAMC, 1981

Table 3

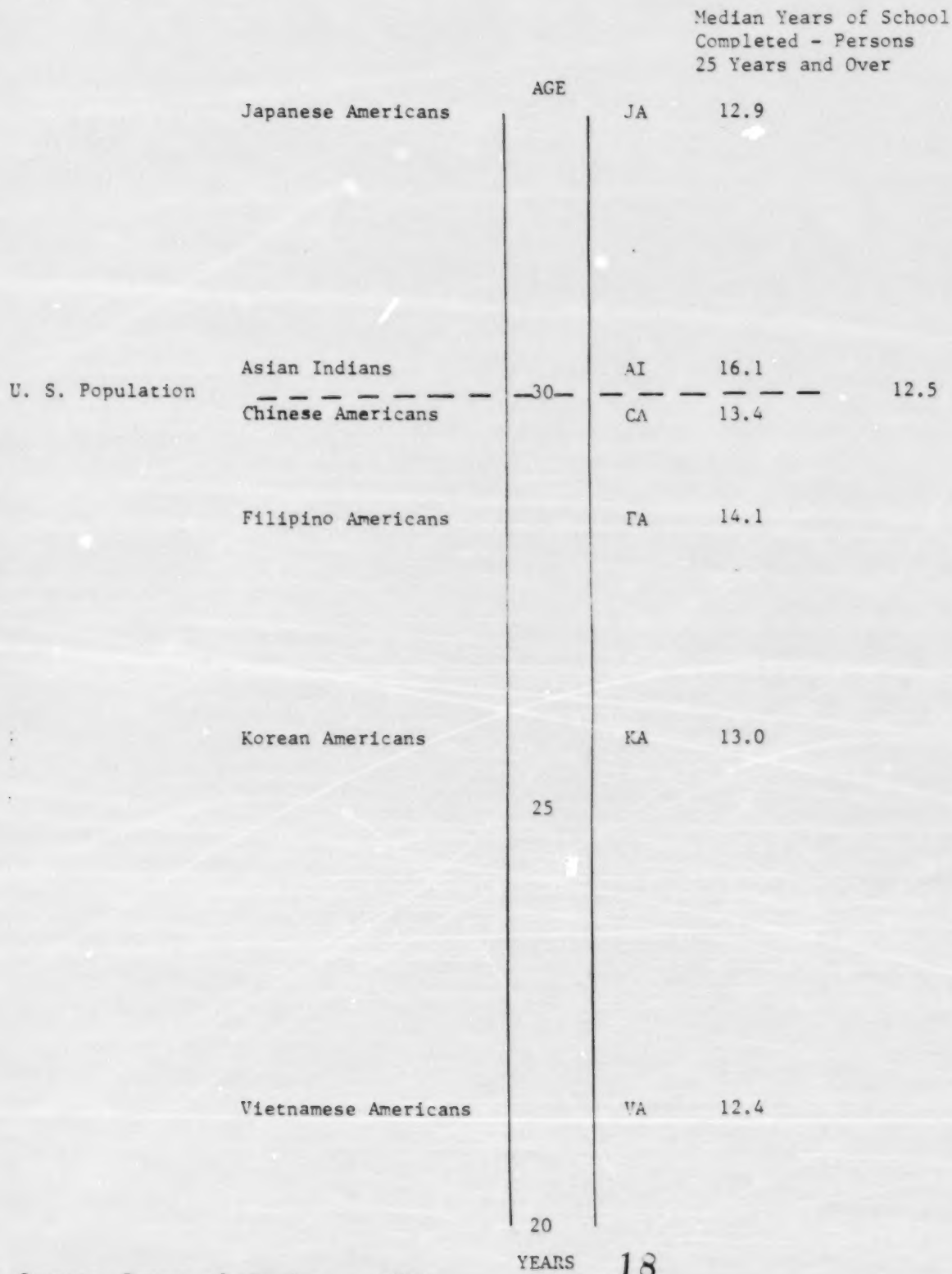
Number and Percentage of Candidates at or Above Select LSAT Score Levels and Percentage Who Received at Least One Office of Admission to a LSDAS-ABA Law School, 1975-76

| | Oriental | | | White & Unidentified | | |
|---|---|---|---|---|---|---|
| Score | N | % | % Accepted | N | % | % Accepted |
| LSAT $\geq$ 600 | 206 | 25 | 84 | 24,468 | 37 | 85 |
| LSAT $\geq$ 500 | 520 | 63 | 78 | 51,307 | 77 | 77 |
| LSAT $\geq$ 450 | 647 | 78 | 75 | 59,359 | 89 | 65 |
| Total | 829 | 100 | 64 | 66,994 | 100 | 59 |

Source: Hsia, 1983

Figure 1

Median Age and Years of Schooling Among Asian Americans
by Ethnic Groups in Comparison to U. S. Total Ponulation, 1980




Source: Bureau of the Census, 1980

Figure 2

Average GRE Verbal, Quantitative and Analytical Scores by Undergraduate Major Areas of Asian American and White Test Takers, 1982-83

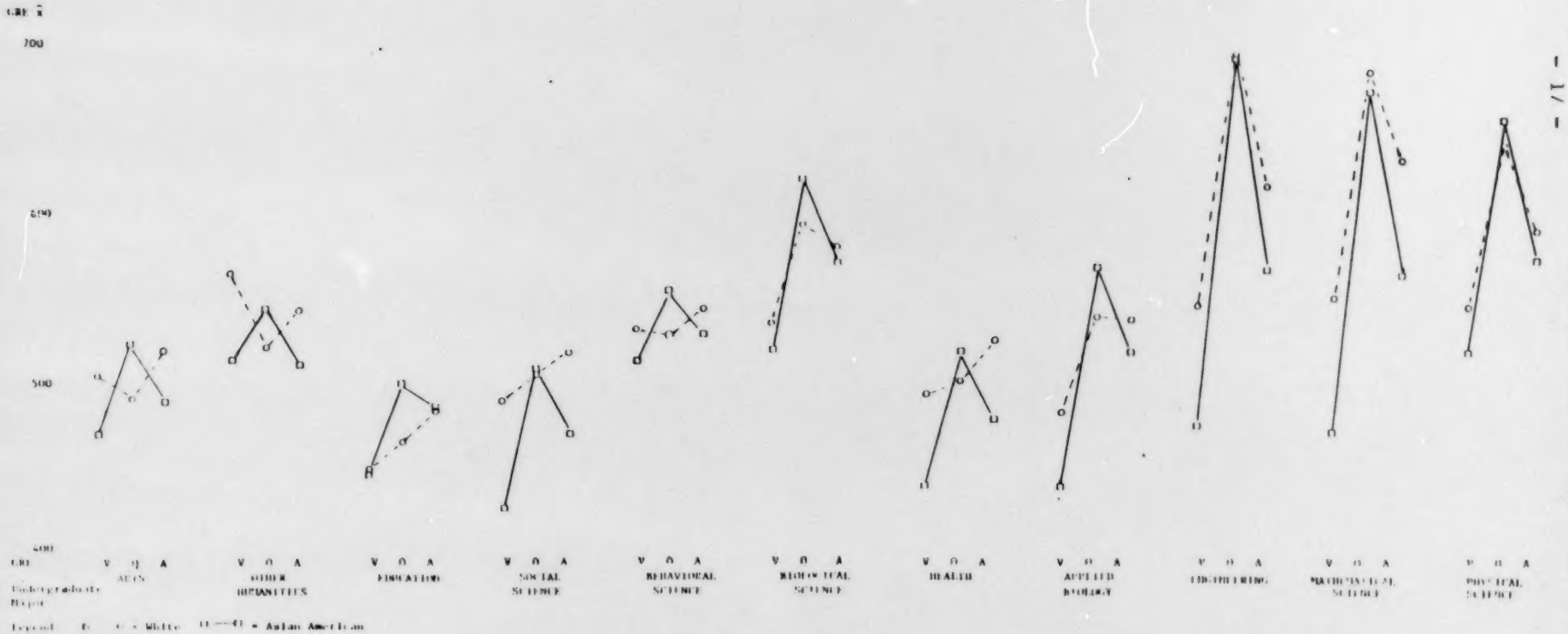





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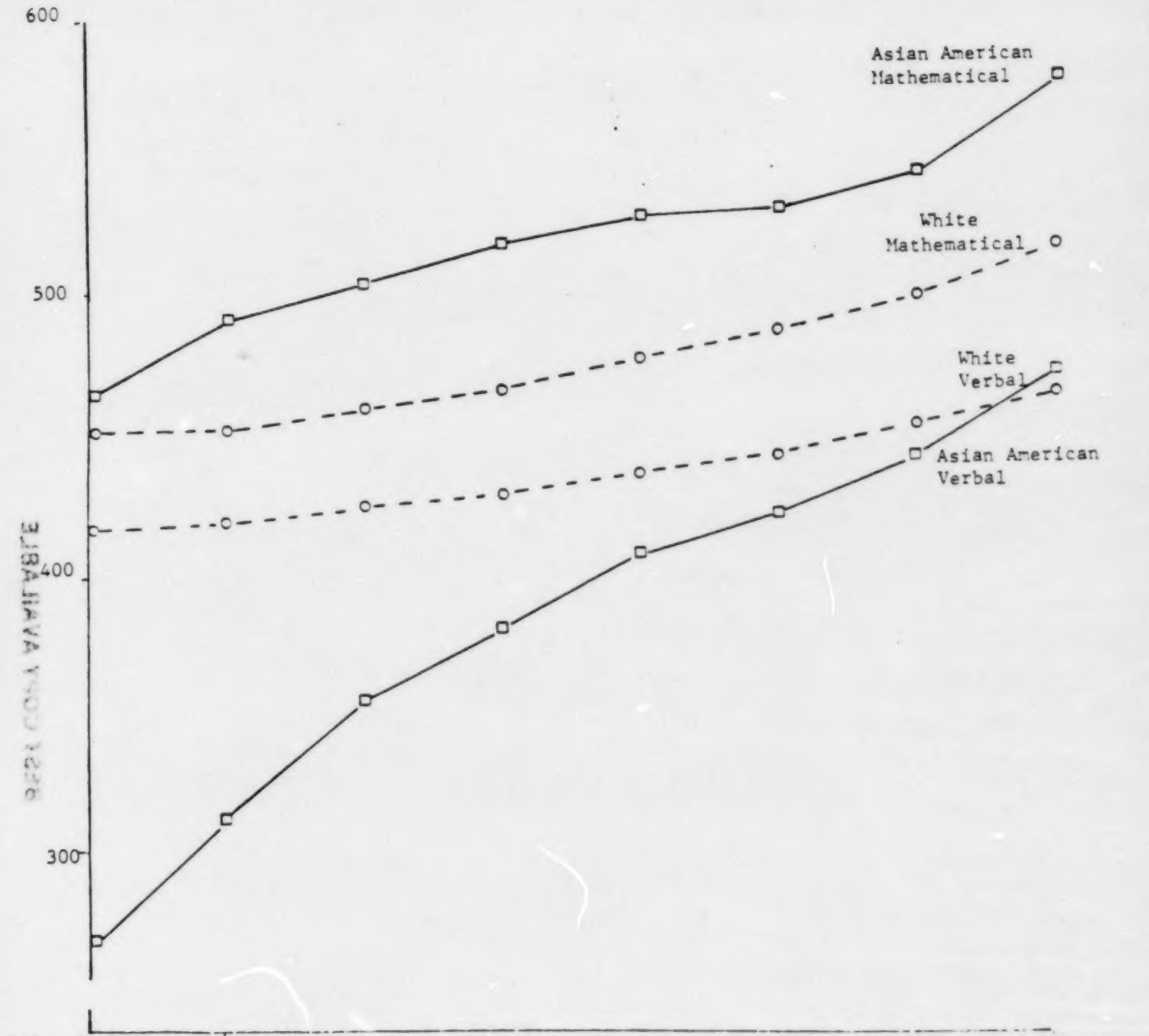
Figure 3

Average SAT Verbal and Mathematical Scores of
Asian American and White Test Takers Classified by
Parental Income, 1983-84




Source: Arbeiter, 1984